CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Amendments to the Water Quality Control Plan For the Sacramento River and San Joaquin River Basins

For

The Control of Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta

Responses to Comments on the April 2006 Public Review Draft Staff Report

ITEM 18

The following presents the comments received on the Central Valley Water Board Staff Report entitled "Amendments to the Water Quality Control Plan For the Sacramento River and San Joaquin River Basins for The Control of Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta". One comment letter was received on the February Peer Review Draft Staff Report (February 2006) and the remaining comment letters were on the Public Review Draft Staff Report (April 2006). Central Valley Water Board responses follow each comment.

1. John S. Sanders, Ph.D., Chief, Environmental Monitoring Branch, Department of Pesticide Regulation

General Comments: The Department of Pesticide Regulation (DPR) found the report to be well written and well documented and we generally support the provisions proposed in the amendments. … We appreciate the opportunities you afforded DPR to consult during the development of the staff report and implementation plan. We look forward to continuing our cooperative relationship as we proceed into the implementation phase of this effort.

Response to General Comments: The Central Valley Water Board appreciates DPR's support of the proposed Amendment. The Central Valley Water Board also looks forward to continuing to work with DPR to address water quality issues associated with diazinon and chlorpyrifos.

Comment 1: The staff report may incorrectly characterize the Basin Plan's direction when 96-hour LC50 data are available, but numeric water quality objectives or criteria are not [available]. … We recommend that when water quality criteria are not available, the Regional Board "consider" all reasonable information when evaluating values that indicate compliance with narrative objectives, not only one tenth of the lowest LC50 value.

Response to Comment 1: The Staff Report has been changed to more accurately characterize the current Basin Plan policy for "Pesticide Discharges from Nonpoint Sources". The current policy states that the Central Valley Water Board will consider 1/10th of the LC50 of the most sensitive species as the daily maximum for protection of aquatic life (in the absence of USEPA criteria or guidance). Other information will be evaluated (such as Lowest Observed Effect Concentrations and No Observed Effect Levels) to determine if lower concentrations are required to meet the narrative objectives.

Comment 2: The issues discussed in section 5.1.1. seem inconsistent as they relate to diazinon and chlorpyrifos. In section 5.1.1. No Change in Water Quality Objectives, the report describes approaches the Regional Board could use to interpret the narrative water quality objective for toxicity as it relates to diazinon and chlorpyrifos. ... For diazinon, the report suggests using one tenth of the lowest LC50 value. For chlorpyrifos, in contrast, the report recommends using the Regional Board's recalculation of the California Department of Fish and Game's chlorpyrifos criteria. We recommend that the report consistently apply one (or both) of the two approaches, or explain why different approaches are appropriate.

Response to Comment 2: The Staff Report has been changed to consistently characterize the implication of the "no change" alternative with respect to interpreting existing narrative water quality objectives. The recalculated California Department of Fish and Game criteria would likely be used in both instances based on currently available information.

2. Maria Rea, Sr. Policy Advisor, USEPA Region 9

General Comments: …[W]e conclude that the TMDL adequately addresses the pollutant of concern, and that the current implementation plans are likely to result in attainment of water quality standards. The TMDL includes allocations, considers seasonal variations and critical conditions, and provides an adequate margin of safety. We support the diazinon and chlorpyrifos water quality objectives and the science used to develop and support these objectives. …EPA supports the language under the monitoring and reporting program to address pesticide runoff in the Delta. …We also support the use of an additivity formula for

considering additive toxicity, especially since diazinon and chlorpyrifos are known to be additive as published in the scientific literature.

Response to Comments: The Central Valley Water Board appreciates USEPA's review and support of the proposed Basin Plan Amendment.

3. David Weinberg, Wiley Rein and Fielding, LLC on behalf of Makhteshim Agan of North America, Inc. (MANA).

Note – these comments were submitted based on the February 2006 peer review draft staff report. Since the comments address issues that are still contained in the April 2006 public review draft staff report, a response to the issues raised is provided.

> **Comment 1:** The Water Board should adopt U.S. EPA's diazinon criteria as the Basin Plan numeric water quality objectives. … Since the draft report was prepared, USEPA has published a final Aquatic Life Ambient Water Quality Criteria (EPA-822-R-05-0006 (December 2005)). MANA believes the USEPA analysis was thorough and reflects the most comprehensive evaluation of available data. MANA thus urges that…the numeric diazinon water quality objectives, 170 ng/L, be adopted as both the acute and chronic objective.

Response to Comment 1: The Public Review Draft Staff Report includes consideration of the USEPA (2005) diazinon criteria. There is a minor (6%) difference between the USEPA acute criterion (0.17 μg/L) and the proposed acute objective (0.16 μg/L). There is a larger difference between the USEPA chronic criteria (0.17 μg/L) and the proposed chronic objective (0.10 μg/L).

As discussed in Section 5.3 of the Staff Report, the proposed objectives are based on a dataset that was thoroughly reviewed by the California Department of Fish and Game (CDFG). The CDFG chronic toxicity dataset included applicable results for three species. The chronic toxicity dataset used by USEPA included only two species. Since the CDFG dataset was more robust for the computation of the acute to chronic ratio (ACR), the CDFG dataset was preferred. The difference in the ACR between CDFG and USEPA (3 versus 2, respectively) resulted in the lower calculated diazinon chronic criterion.

The slight difference between the USEPA acute criterion and the proposed acute objective is based on slight differences in toxicity test results that were used in the calculations. The USEPA criteria document included results from one test that did not meet the American Society for Testing and Materials (ASTM) quality guidelines (*Gammarus pseudolimnaeus*) and results from a second test that were based on a re-interpretation of laboratory data sheets for the species *Gammarus fasciatus*. Since neither CDFG staff nor Central Valley Water Board

staff believed the results were reliable, those test results were excluded from the calculations.

Based on this analysis, the Central Valley Water Board believes the proposed diazinon objectives are derived from the most reliable toxicity test results. No changes to the proposed diazinon water quality objectives have been made.

> **Comment 2:** The Scholz study does not provide a basis for establishing or adjusting the diazinon water quality objective. The Commenter provided 2 ½ pages of discussion and suggested that the study was too unreliable even to merit limited acknowledgement in the Staff Report.

Response to Comment 2: As a published study indicating potential sublethal effects of environmentally realistic concentrations of diazinon on endangered salmonids, the Scholz study merits consideration in the Staff Report. The discussion of the Scholz study in the Staff Report has been modified to more accurately reflect the uncertainties associated with the study raised in Dr. Felsot's peer review.

> **Comment 3:** Additivity. As Dr. Felsot has pointed out in his peer review comments on this draft report and on the Sacramento-San Joaquin report, additivity of toxic effects does not appear to occur at the levels of diazinon and chlorpyrifos found in Delta waterways. Nor does the data support the purportedly synergistic effect of atrazine at the levels present. MANA thus urges that the draft report be revised to reflect the lack of any well-founded concern about additivity.

Response to Comment 3: Diazinon and chlorpyrifos have the same mechanism of toxic action, and have been shown to exhibit additive toxicity to aquatic invertebrates when they co-occur (Bailey et al. 1997; Siepmann and Finlayson, 2000). In mixtures of industrial organic compounds acting through the same mechanism, Deener et al. (1988) concluded that there is no concentration below which a compound will no longer contribute to the overall toxicity of the mixture. These studies suggest that the total potential toxicity of co-occurring diazinon and chlorpyrifos needs to be assessed, even when one or both of their individual concentrations would otherwise be below thresholds of concern.

Dr. Felsot's comment regarding the apparent lack of additivity of diazinon and chlorpyrifos below a certain threshold was based on a statement in the Bailey, et al. (1997) study. That study indicated mortality to *Ceriodaphnia dubia* was not observed when the concentration of diazinon and chlorpyrifos added up to about 0.50 toxic units (1 toxic unit would equate to the LC50 (lethal concentration to 50% of the organisms)). The lack of observed mortality suggests that the threshold concentration for causing lethality was not reached, but does not provide any evidence as to whether other effects may have occurred. In addition, the Bailey et al. (1997) study only tested mixtures with equivalent toxic

units of diazinon and chlorpyrifos (e.g. diazinon and chlorpyrifos both present at 1 toxic unit each, 0.5 toxic unit each, 0.25 toxic unit each). One half (0.5) toxic unit equals ½ of the LC50 concentration, but does not equate to a specific toxicity response (e.g. LC25). The study did not test, let alone conclude, that relatively low concentrations of one of these pesticides would not contribute to the overall toxicity of water containing high concentrations of the other pesticide.

The additivity formula is not meant to be a predictor of a specific toxic response. The formula is applied to ensure that beneficial uses are protected when more than one pesticide is present. It should also be noted that Dr. Felsot stated in his peer review comments that, in order to be conservative, the application of the proposed additivity formula for diazinon and chlorpyrifos was "reasonable from a risk management perspective" (Felsot, 2006). Given the clear scientific evidence of the additive toxicity of diazinon and chlorpyrifos and the explicit Basin Plan requirements to consider additive toxicity to protect beneficial uses, this Amendment includes the additive toxicity formula to set the loading capacity and allocations for diazinon and chlorpyrifos in the Delta.

The response to peer review comments included in the Public Review draft Staff Report acknowledges that the concentrations of triazine herbicides (such as atrazine) found in the Delta are not detected at levels shown to increase diazinon toxicity. Due to the co-occurrence of multiple pesticides and other potentially toxic substances present in the Delta, however, additive and synergistic toxic effects remain a concern. The proposed amendment therefore continues to address this concern by including requirements for monitoring for potential additive or synergistic effects.

4. William J. Thomas on behalf of Dow AgroSciences (DAS) LLC

> **Comment 1:** Watershed Areas to Be Considered. Board Staff has elected to expand the 303(d)-listed Delta Waterways to a much larger area of proposed action (Figure 1-provided in comment letter) without providing evidence that this is necessary to protect water quality. Furthermore, Appendix A (provided in comment letter) cites disclaimers from the providers of the dataset used to delineate the boundary that the dataset is hydrologically incorrect, and therefore it cannot be used with confidence to determine hydrologic connectivity. The proposed definition of the Delta area appears to be unsupportable for the purposes of this report.

Response to Comment 1: The water quality objectives proposed will only apply to the legal Delta, as identified in the proposed Basin Plan Amendment. The application of the objectives is consistent with the 303(d) listing, which identifies diazinon and chlorpyrifos as impacting the whole Delta. The proposed objectives and loading capacity have not been expanded beyond the legal Delta boundaries in this Amendment. Allocations must be established for discharges to the waterways into the legal Delta to ensure attainment of water quality objectives.

Some of those discharges originate outside of the legal Delta boundary (e.g. within the identified Delta watershed) and must be taken into account. Central Valley Water Board staff has reviewed the Delta watershed boundaries and confirmed that the boundaries accurately account for the lands draining to the Delta below major reservoirs. The CalWater boundaries were not used to identify streams (only Delta watershed boundaries). Delta waterways were identified from a number of different mapping sources, including U.S. Geological Survey 1:24,000 scale maps. These mapping sources provide the best available information on Delta waterways that are hydrologically connected.

> **Comment 2:** This [text from the Staff Report] suggests sources in the Delta are local in nature, and attention should be paid to the area within the legal definition of the Delta, not the hydrologically incorrect "Delta watershed boundary" (Figure 1). In fact, the only 303(d) listings of Delta waterways for chlorpyrifos occur nearly exclusively within the legal definition of the Delta, and this huge area of listed impairment was supported by very sparse monitoring data. There appears to be no justification for expanding this action to include a larger area. DAS therefore requests that the area to be included in the Water Quality Plan amendments incorporate only the Legal Delta region containing the listed segments. Such a change will allow stakeholders to focus on local areas contributing chlorpyrifos movement to impaired waterways, which Board Staff acknowledges are the most significant sources. Expanding the area of concern to the proposed Delta watershed boundary will result in increased burden on limited stakeholder resources to take actions to improve water quality in more remote use sites with a small likelihood of significant benefit to the impaired segments.

Response to Comment 2: See response to Comment 1. Although the greatest frequency of elevated chlorpyrifos levels occurs in drains and back sloughs, available data also indicates that chlorpyrifos is periodically delivered by tributary streams to Delta waterways. In assigning the available loading capacity to various point and non-point sources, the Central Valley Water Board must account for all sources to meet TMDL requirements (40 CFR § 130.2 and 130.7) and ensure attainment of the applicable water quality objectives. Sources outside of the legal Delta boundaries contribute diazinon and chlorpyrifos to Delta waterways, therefore, those sources must be taken into account as part of this Basin Plan Amendment.

Although it would inappropriate to ignore sources outside of the legal Delta, it may be appropriate for the management plans submitted by dischargers to prioritize implementation efforts by focusing on those areas that contribute the greatest amount of chlorpyrifos.

> **Comments 3 & 4: Additive Toxicity and Loading Capacity.** DAS has previously commented in the context of the San Joaquin River TMDL that

using numeric criteria set for individual chemicals in the Basin Plan additivity formula is not scientifically defensible. DAS requests that the concentration-based loading capacity be set for chlorpyrifos and diazinon independently, with no consideration of additive toxicity. To support their recommendation, the Commenter suggested that additivity does not apply to chronic effects; that the US EPA method cannot be used in an additivity formula since it will not predict toxicity; diazinon and chlorpyrifos are at levels lower than one would expect additivity; the number and types of species used to derive the respective objectives differ significantly and invalidate consideration of additivity; and that diazinon and chlorpyrifos rarely co-occur.

Response to Comments 3 & 4: The response to using the Basin Plan additivity formula to predict toxicity; the levels of diazinon and chlorpyrifos detected with respect to additive toxicity considerations; and the co-occurrence of diazinon and chlorpyrifos are discussed in the response to Comment 3 from David Weinberg representing MANA.

The Commenter did not submit any evidence to support the contention of a lack of sublethal (or chronic) additive effects. Both diazinon and chlorpyrifos have the same mode of action – acetylcholinesterase inhibition. Given the similar mode of action, the Basin Plan currently requires that the cumulative effects of these two chemicals must be addressed whether for lethal or sub-lethal effects.

The derivation of the diazinon and chlorpyrifos criteria was based on the best available information on the toxicity of those chemicals to laboratory test species. The USEPA criteria method, which was used by CDFG and the Central Valley Water Board, uses a minimum of eight families to represent a range of aquatic life. Contrary to the suggestion of the Commenter, common taxonomic groups are used per the USEPA guidance. Half of the toxicity test results were for the same species. The test species are limited in number (20 for chlorpyrifos, 17 for diazinon) but are meant to be representative of the effects of diazinon and chlorpyrifos on hundreds of invertebrate and fish species in the Delta. The water quality objectives must protect all of the Delta aquatic species, and not just predict toxic effects for a few test species. Given the limited number of valid toxicity test results for use in deriving the criteria, it would not be protective to use only the common test species when considering the additive toxicity effects. The Central Valley Water Board believes it is reasonable to apply the diazinon and chlorpyrifos objectives to the Basin Plan additivity formula for calculating loading capacity to ensure protection of aquatic life from additive toxicity effects.

Both diazinon and chlorpyrifos are used throughout the year (see figure 2.1 in the draft Staff Report), although in any given month the amount of one pesticide used may be much greater than amount of the other pesticide used. Diazinon and chlorpyrifos have also been detected concurrently in water samples from Delta waterways and from tributary streams to the Delta over 25% of the time

when either diazinon or chlorpyrifos were detected[1]. Neither the pesticide use information nor water quality data support the assertion that the co-occurrence of diazinon and chlorpyrifos is rare. In addition, there is no provision in the Basin Plan that provides an exception to consideration of additive toxicity based on low frequency of co-occurrence of chemicals with a similar mode of action.

5. John Herrick, South Delta Water Agency

> **Comment 1:** Further clarification is necessary to insure there is no misunderstanding about whether or not there are or will be objectives established in agricultural drains.

Response to Comment 1: The list of Delta Waterways in the draft Staff Report appendix identifies the specific waterways to which the objectives will apply. The numeric water quality objectives being adopted as part of this Amendment do not apply to any other waterways that may be within the legal Delta boundary. This Amendment does not address or limit the potential development of water quality objectives for agricultural drains in the future. The Central Valley Water Board does not believe it is appropriate to place such limitations in this Basin Plan Amendment.

> **Comment 2:** It is not clear how an hourly objective would be monitored or enforced.

Response to Comment 2: The proposed Basin Plan Amendment states that "Available samples within the applicable averaging period for the water quality objectives will be used to determine compliance with the allocations and loading capacity." If only one sample is taken in an hour, that sample would be used to assess compliance. If multiple samples were taken within an hour, those samples would be averaged to determine compliance.

> **Comment 3:** The apparent lack of a serious problem (in the southern and central Delta – tables 2.8 and 2.9) should be taken into account when establishing and enforcing water quality objectives.

Response to Comment 3: It is appropriate to apply diazinon and chlorpyrifos water quality objectives in the southern and central Delta, since there is significant use of those pesticides in those areas (see Appendix F of the draft Staff Report). In addition, the tables the Commenter referred to indicate periodic exceedances of the proposed objectives and loading capacity in southern and central Delta waterways. A policy for enforcement of the water quality objectives is not included in the proposed Basin Plan Amendment. However, it is anticipated the Central Valley Water Board would apply the appropriate State

[1] Data from the reports referenced in Appendix B of the draft Staff Report was evaluated to calculate the frequency of co-occurrence.

Water Board or Regional Water Board enforcement policy should compliance not be attained by the compliance date.

> **Comment 4:** The Basin Plan dealing with areas contributing diazinon in the Delta should not be such to allow flushing of the chemical in a manner that precludes the normal agricultural practices of Delta farmers.

Response to Comment 4: The Central Valley Water Board has recently amended the Basin Plan to address diazinon discharges from the Sacramento and San Joaquin Rivers. The compliance dates for meeting objectives in those rivers is before the compliance date for the Delta. The Central Valley Water Board's Amendments, together with recent changes in the federal pesticide label for diazinon, are expected to result in significant decreases in diazinon concentrations in all of these areas. Current levels of diazinon found in areas contributing diazinon to the Delta are not known to have any impact on growing specific crops or the cultural practices associated with growing crops. Neither current nor future diazinon levels coming from the Sacramento and San Joaquin Rivers or other watersheds tributary to the Delta are expected to preclude normal agricultural practices of Delta farmers.

> **Comment 5:** Page 36 appears to allow the Basin Plan Amendment and water quality objectives to be implemented through ag waiver coalitions. This should be specifically stated so there is no misunderstanding.

Comment 5: Item 3, under "Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta Waterways" (section 3 of the Staff Report), states that the objectives and allocations will be implemented through one or a combination of waivers of waste discharge requirements or waste discharge requirements. If a waiver of waste discharge requirements issued to a coalition governs the discharge of diazinon and chlorpyrifos, the Amendment would be implemented through that coalition. If waste discharge requirements or an individual waiver governs the discharge, the Amendment would be implemented through those mechanisms.

> **Comment 6:** We understand the prevailing scientific position to be that the additivity formula should not be employed when constituents are below the level of any biological influence.

Response to Comment 6: See response to Comment 3 from David Weinberg representing MANA and the response to Comments 3 & 4 from William J. Thomas representing Dow AgroSciences.

> **Comment 7:** If the incoming water has the maximum allowable concentration of diazinon and chlorpyrifos, that would preclude any downstream agricultural use which would discharge water back into the Delta. It would seem the more appropriate approach would be to have the

incoming water quality be at levels below the standard so that further downstream use is possible.

Response to Comment 7: See response to Comment 4. Diazinon and chlorpyrifos levels would not preclude agricultural use of the water. The discharge of the water would need to meet the applicable allocations. The presence of diazinon or chlorpyrifos in the supply water could limit, to some extent, the amount of additional diazinon or chlorpyrifos that could be added to the water prior to discharge. In general, the majority of diazinon or chlorpyrifos in discharge from an agricultural field would likely be due to applications to that field and not from diazinon or chlorpyrifos contained in supply water.

For example, if the supply water contained 0.16 μg/L of diazinon (the acute objective for the San Joaquin River), application of six inches of water to an acre of land would include 0.0002 lbs of diazinon. A typical application rate of diazinon for pest control is 2 lbs/acre (Greenbook, 2006). The amount of diazinon applied by the grower would, therefore, be about 10,000 times higher than the amount "applied" to the field from supply water when the maximum allowable levels are coming from upstream sources. The primary source of any diazinon or chlorpyrifos in a grower's discharge will, therefore, likely be from the grower's field rather than supply water.

Comment 8: The document notes that some of the proposed practices might also recharge groundwater through increased infiltration. This observation is generally untrue in the Delta given the high groundwater levels.

Response to Comment 8: The staff report has been modified to discuss the circumstances in which increased infiltration might occur.

Comment 9: On page 80 and other places, it notes the proposed conditional prohibition for discharges. Given the relatively rapid rate by which these chemicals break down, it is not clear why a previous year's violation should preclude any discharge in a future year.

Response to Comment 9: The conditional prohibition of discharge applies only to those dischargers whose discharge is <u>not</u> governed by a waiver of waste discharge requirements or waste discharge requirements. Since Porter-Cologne requires dischargers of waste to have either waste discharge requirements or a waiver of waste discharge requirements, the conditional prohibition only applies to dischargers not in compliance with Porter-Cologne (i.e. dischargers who are unregulated under Porter-Cologne). The conditional prohibition allows the Central Valley Water Board to take immediate action against those dischargers who are not complying with Porter-Cologne and who are causing or contributing to a water quality problem. Discharge of diazinon or chlorpyrifos in a prior year suggests the unregulated discharge would continue to cause or contribute to an

exceedance of water quality objectives. The prohibition would not preclude future discharge, if the discharger simply came into compliance with Porter-Cologne requirements by seeking waste discharge requirements or a waiver from waste discharge requirements.

> **Comment 10:** The evaluation of the costs associated with implementing the Basin Plan Amendment and Water Quality Objectives needs further work. The document references certain savings or avoided costs due to already existing changes in agricultural practices, narrative water quality standards, and expected changes in chemicals used. Such assumptions do not appear to take into account actual costs that will be required to come into compliance under a specific numeric standard. The document references ranges of costs associated with implementation of the ag practices to address the water quality objectives. Again, the evaluation may be understated given the assumptions previously referred to. In addition, we don't see any real discussion about how an alfalfa farmer might absorb an extra $100 per acre cost. Such an increased cost would seem on its face to result in it being economically unfeasible to implement such practices. Similarly, the change in per-acre production cost seems to be understated in light of the cost of implementing the practices.

Response to Comment 10: Currently, the existing Basin Plan narrative toxicity and pesticide objectives are not being met in the Delta waterways. Absent this Basin Plan Amendment, growers who discharge diazinon or chlorpyrifos to Delta waterways would still be obligated to reduce their discharge to meet the narrative objectives. Therefore, there would still be a cost to growers discharging these chemicals to meet existing objectives. The cost estimates generally represent a high-end estimate of the cost to growers to meet the proposed numeric objectives and loading capacity.

For purposes of making the estimates, it was assumed that all acres treated with diazinon or chlorpyrifos would require changes in management practices. In fact, some growers may already have instituted practices that mitigate the discharge of diazinon or chlorpyrifos. In addition, the Department of Pesticide Regulation (DPR) is currently re-evaluating the uses of chlorpyrifos and it is anticipated that changes in the federal label will occur as a result of that re-evaluation. Since compliance with the pesticide label is a federal requirement, growers will be required to adopt new management practices to meet those requirements. The DPR re-evaluation process was specifically designed to address chlorpyrifos runoff to surface waters, so the management practices will be designed to mitigate that runoff.

It should also be noted that the Staff Report does not include an exhaustive survey of all possible management practices that could be employed to mitigate diazinon or chlorpyrifos runoff. We anticipate that growers will try to find the lowest cost method for mitigating runoff and many of those methods will be site-

specific (e.g. pest scouting to avoid application, changes to irrigation practices to reduce runoff). Such site-specific changes are not easily quantified for purposes of the general cost estimates provided in the Staff Report.

The review of available management practices clearly indicates that there are multiple strategies that a grower can use to reduce diazinon or chlorpyrifos runoff. The grower will be in the best position to identify which practices can be implemented at the lowest cost.

6. Wendell H. Kido, District Manager, Sacramento Regional County Sanitation District

Comment 1: Cost Estimate to NPDES Permittees

Section 9.3 estimates costs to NPDES permittees. The analysis claims that because urban uses of diazinon and chlorpyrifos have been phased out, there should not be any additional costs for NPDES permittees associated with meeting the waste load allocations. However, the District is concerned that there is not enough information available for the Regional Board to make this statement with such certainty. In fact, page 23 of the report identifies a major concern with available data for chlorpyrifos. The report recognizes that the analytical detection limits for chlorpyrifos are actually above the proposed objective as recommended in the report. Due to the uncertainty associated with analytical detection limits, the lack of data supporting the economic analysis statement, and the fact that urban chlorpyrifos uses have only been partially phased out, the Regional Board should re-evaluate the potential costs to NPDES permittees if in fact they cannot meet the proposed waste load allocations.

Response to Comment 1: Staff has reviewed the changes in USEPA's registration of both diazinon and chlorpyrifos (see pages 22,23, and 74 of the draft Staff Report). The sale of diazinon for all non-agricultural uses is no longer permitted. The sale of chlorpyrifos for most non-agricultural uses is no longer permitted and permitted application rates for the remaining allowed non-agricultural uses have generally been reduced significantly (by up to 75%). With the virtual elimination of non-agricultural uses of diazinon and chlorpyrifos, no additional management practices or treatment technologies are expected to be required for NPDES permittees. Since compliance is expected with no additional effort on the part of NPDES permittees, there is no basis for estimating additional cost for compliance.

The proposed Basin Plan Amendment includes a provision for Central Valley Water Board review and potential revision of the proposed allocations and compliance time schedule. If it does not appear that the waste load allocations

will be met by the federal use changes alone, the Central Valley Water Board may consider revising the allocations or compliance time schedule.

The Staff Report reference to analytical detection limits applies to older ambient monitoring data. Analytical detection limits for laboratories used by the Central Valley Water Board are currently below the proposed objectives.

> **Comment 2:** Discharge Prohibitions Should Not Apply if Permittee Governed by Individual or General NPDES Permits
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> The language in *Chapter IV, Implementation* of the proposed Basin Plan Amendment states that the discharge prohibitions do not apply if the discharge of diazinon or chlorpyrifos is governed by individual or general waste discharge requirements. This language does not specify the Regional Board's interpretation that individual waste discharge requirements include NPDES permits. While the District understands the Regional Board's intent, it is imperative that this be spelled out in the adopted Basin Plan Amendment language.

Response to Comment 2: All NPDES permits are also issued as waste discharge requirements under Porter-Cologne. Section 13374 of Porter-Cologne specifically states that "The term "waste discharge requirements" as referred to in this division is the equivalent of the term "permits" as used in the Federal Water Pollution Control Act, as amended. " The exception to the prohibition, therefore, applies to both NPDES and non-NPDES waste discharge requirements. It should also be noted that both the Sacramento/Feather Rivers diazinon and the San Joaquin River diazinon/chlorpyrifos Basin Plan Amendments use similar prohibition language to that proposed for the Delta. Specifically identifying NPDES permits in this Amendment might suggest that the previously adopted prohibitions did not address NPDES permits as part of the exception for discharges governed by waste discharge requirements. Since the statute clearly includes NPDES permits as a type of waste discharge requirement, and to avoid misunderstanding with the applicability of previously adopted prohibitions, no changes to the Delta Amendment are proposed.

> **Comment 3: Allow Dilution Credit and Use of Appropriate Modeling Methods If Assimilative Capacity Available**
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> The Delta Waterways Loading Capacity and the waste load allocation provisions of the proposed Amendment do not appear to allow for dilution should it be shown that there is assimilative capacity for diazinon and chlorpyrifos. When effluent limitations are established in NPDES permits, a permittee may show that available assimilative capacity exists by reviewing the ambient data. In fact, the State Water Resources Control Board has opined that when establishing effluent limitations, Regional Water boards must review available ambient data and make findings dependent upon that

data to determine the availability of assimilative capacity. (State Board Order WQO 2004-0013, page 14) Since waste load allocations often become effluent limits in NPDES permits, the Delta Loading Capacity calculation should allow for dilution when assimilative capacity has been shown to exist. This is consistent with the rationale contained in the State Board's decision discussed above. If assimilative capacity has been shown to exist, the proposed Amendment should allow the use of appropriate modeling methods to develop effluent limitations.

Response to Comment 3: As discussed in Comment 1, no change in wastewater treatment should be needed to meet waste load allocations. Therefore, there is no basis for providing dilution credit. The State Water Board order referenced was not issued for a situation in which the loading capacity has already been identified and allocated among point and non-point sources, as is the case with this proposed Amendment.

In addition, any allowable increase in a waste load allocation (i.e. as reflected in effluent limitations) would require a corresponding decrease in the load allocations to non-point sources to ensure that the loading capacity is not exceeded. Since such changes in allocations affect multiple parties, the Basin Plan would need to be amended. Making changes to the waste load allocations through a single NPDES permitting action would not be legal in this case.

Reference

Greenbook. Specimen Label. Makhteshim Agan of North America. Diazinon 50W. Accessed at www.GreenBook.net on June 15, 2006.